Software Engineering Processes and Management

Workshop 08

Introduction

The aim of this workshop is to introduce you with cost estimation, applying COCOMO II for formal lifecycle models and then using effort estimation to measure Agile Development.

Question 1: COCOMO II (Section 7.4.3)

COCOMO or ottherwise known as the Constructive Cost Model, is a model used to measure the cost of developing software.

Today we will be working with this online estimation tool found here:

http://csse.usc.edu/tools/cocomoii.php

There are several steps required in order to better visualize the final cost of developing a particular piece of software.

1. Consider the size which can be measured by:
   - Logical source lines of code (SLOC)
   - Function points
2. Estimate the scale this is done by looking at these five scaling factors:

- Precedentedness: How familiar is the team with this software?
- Development flexibility: How flexible is the development process?
- Architecture completed and risks eliminated
- Team cohesion: How well can the team interact with one another?
- Process maturity: Does the team follow processes?

3. Estimate the cost drivers, these are evaluated off three key areas:

- Software Cost drivers
- Personnel Cost drivers
- Platform Cost drivers

In a group, given the case study you used for Assignment 1, fill out the details in the online estimation tool and discuss about which values you think would be appropriate for each step.

Here are some additional details to help you out:

- There are **40 function points** and the development language is **Java**.
- The cost per person-month was calculated to be **$1500**

Question 2: Agile Effort Estimation (Section 7.5)

Revisiting Workshop 05

Take a look at question 8 of workshop 5, given the following table, if you have not done so before, create a burndown chart. Then answer the following questions:

1. What is the predicted velocity in sprint 1?
2. What is the actual velocity in sprint 1?
3. Given the actual velocity in sprint 1, what is the estimated delivery time?